



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,330	02/24/2004	Yang-En Wu	ADTP0096USA	2329
27765	7590	01/24/2006	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			NGUYEN, THANH NHAN P	
			ART UNIT	PAPER NUMBER
			2871	
DATE MAILED: 01/24/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/708,330	WU, YANG-EN	
	Examiner	Art Unit	
	(Nancy) Thanh-Nhan P. Nguyen	2871	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

This communication is responsive to Request for Continued Examination (RCE) dated 1/12/2006.

Claims 1-16 are pending for the examination.

### **Claim Rejections - 35 USC § 112**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claims 5 & 13 are rejected under 35 U.S.C. 112, first paragraph**, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

First, claims 5 & 13 introduce the limitation "the color filters are formed on an upper surface of the upper substrate" which is not described in the specification. In the specification, it only mentions to form the color filters either on the lower surface of the upper substrate or on the upper surface of the lower substrate. Second, Examiner wonders why an ordinary skill in the art would like to have the color filters formed on an upper surface of the upper substrate, or in the other words, the color filters formed outside of the liquid crystal cell? Wouldn't the color filters be damaged? What benefit should a liquid crystal display device get when it has the color filters formed on an upper surface of the upper substrate (or formed outside of the cell)?

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 2, 4, 6-10, 12 & 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodate U.S. Patent No. 5,748,266 in view of Rho et al U.S. Patent No. 6,862,050 and Yamada U.S. Patent No. 6,795,141.**

**Regarding claim 9**, Kodate discloses a liquid crystal display comprising: a lower substrate (12) having a display area and a non-display area on an upper surface thereof, the lower substrate comprising: a plurality of scan lines (24) and a plurality of data lines (26), wherein the data lines are arranged perpendicular to the scan lines to form a pixel matrix in the display area, the pixel matrix comprising a plurality of pixels (10); a plurality of common electrodes (28) for transmitting a common voltage; and a plurality of common electrode pads electrically connected to the common electrodes, the common electrode pads and the common electrodes are positioned at a same plane on the lower substrate; an upper substrate (72) positioned on the lower substrate oppositely, the upper substrate comprising: a plurality of color filters (32), and black matrices (66) disposed between adjacent color filters; a plurality of spacers (78) positioned on the upper substrate for supporting a space between the upper substrate and the lower substrate, wherein each of the spacers corresponds to one of the common electrode pads of the lower substrate; and a conductive material layer (30)

Art Unit: 2871

positioned the upper substrate covering the spacers, wherein the conductive material layer covering the spacers is connected to each of the common electrode pads corresponding to each of the spacers; and a plurality of liquid crystal molecules (in liquid crystal layer 34) filled in the space between the upper substrate and the lower substrate, [see figs. 6, 8 & 9].

Kodate lacks disclosure of the spacers are photo spacers.

Rho et al discloses the spacers are photo spacers for the benefit of being able to place at the desired position and having uniform thickness, [see col. 8, lines 37-40]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to employ photo spacers for the benefit of being able to place at the desired position and having uniform thickness.

Kodate further lacks disclosure of wherein each of the photo spacers corresponds to one of the black matrices.

Yamada discloses the spacers (180) formed corresponding to the black matrices (150), [fig. 6], for achieving the liquid crystal display device with the image display not affected by the spacers, [col. 5, lines 47-50], or in another words, for the benefit of not reducing the pixel aperture in the liquid crystal display device. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the spacers formed corresponding to the black matrices for the benefit of not reducing the pixel aperture in the liquid crystal display device.

**Regarding claim 10**, Kodate discloses the lower substrate (12) further comprises a plurality of TFTs (16) positioned on each intersection of the scan lines and the data lines as switching elements of the pixels, [see figs. 6, 8 & 9].

**Regarding claim 12**, Kodate discloses a plurality of color filters (32) positioned on the bottom surface of the upper substrate (72), wherein each of the color filters comprises a red color filter, a green color filter, and a blue color filter, [see fig. 8; col. 2, lines 8-12].

**Referring to claim 14**, Kodate discloses a polarizer (38) positioned on the upper surface of the upper substrate and a polarizer (38) positioned on the bottom surface of the lower substrate, [see fig. 8].

**Referring to claim 15**, Kodate discloses each of the pixels contains one of the photo spacers, [see fig. 8, and claim 1 rejection about "photo spacers"].

**Referring to claim 16**, Kodate discloses the conductive material layer (30) is a transparent ITO layer, [see col. 2, lines 1-3].

**Claims 1, 2 & 4** are met the discussion regarding claims 9, 10 & 12 rejection above respectively. Further, even though Kodate lacks disclosure of forming a plurality of scan lines, a plurality of common electrodes, and a plurality of common electrode pads on an upper surface of the lower substrate simultaneously, it was obvious to one ordinary skill in the art to form those elements simultaneously as for the benefit of reducing manufacturing process, and therefore achieving better product yield.

**Claims 6-8** are met the discussion regarding claims 14-16 rejection above respectively.

**Claims 3 & 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodate in view of Rho et al and Yamada as discussed above and further in view of Kurauchi et al U.S. Patent No. 5,917,572.**

**Regarding claim 11,** Kodate lacks disclosure of wherein the lower substrate further comprises an alignment film having a plurality of openings disposed on the common electrodes, and the dimension of each photo spacer plus the dimension of the conductive material layer covering the photo spacer substantially equal to the dimension of each opening so that the alignment film is in contact with the conductive material layer.

Kurauchi et al discloses the lower substrate (11) comprises an alignment film (21) having a plurality of openings disposed on the common electrodes, and the dimension of each spacer (33) plus the dimension of the conductive material layer (34) covering the spacer substantially equal to the dimension of each opening so that the alignment film is in contact with the conductive material layer, [fig. 1], for the benefit of aligning the liquid crystal molecules in the display. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the lower substrate further comprises an alignment film having a plurality of openings disposed on the common electrodes, and the dimension of each spacer plus the dimension of the conductive material layer covering the spacer substantially equal to the dimension of each opening so that the alignment film is in contact with the conductive material layer for the benefit of aligning the liquid crystal molecules in the display.

**Claim 3** is met the discussion regarding claim 11 rejection above.



Art Unit: 2871

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P. Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on M-F/9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

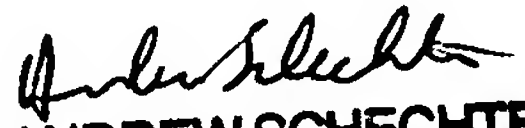
(Nancy) Thanh-Nhan P Nguyen

Examiner

Art Unit 2871

-- January 22, 2006 --

TN

  
ANDREW SCHECHTER  
PRIMARY EXAMINER